Project Delivery Efficiencies

PROBLEM STATEMENT

Constrained financial resources, coupled with increasing needs for construction and maintenance, have led several states, including Washington, to seek efficiencies in providing and delivering transportation facilities. Transportation agencies can create efficiencies within the traditional project delivery framework. A second set of project delivery tools, known as alternative project delivery (APD), involves more significant changes in the conventional methods of design, construction, and finance of transportation facilities.

STREAMLINING CONVENTIONAL PROJECT DELIVERY

Within the conventional project delivery framework, efficiencies can occur through improved project management, enhanced team planning, and work schedule acceleration. The accelerated process used in designing and building the Interstate 5 South DuPont Interchange resulted in substantial cost and time savings. Although the DuPont project involved some unusual circumstances, including private funding and few land owners, several innovations could be applied to other projects:

- beginning environmental review early in the process — early review and coordination can shorten the waiting period for beginning construction
- using a more efficient design process — assembling a new team focused specifically on one project, and streamlining design review, with high levels of coordination and elimination of redundant reviews
- including utility work as part of the construction contract — including communications and power relocation can reduce the risk of delays by utility providers
- including options and greater flexibility as part of the construction contract — options allow the contractor to bid any of the alternatives without having to go through an approval process.

Key to the DuPont success, however, was the willingness of the private sector to take risks that allowed WSDOT to alter its standard process for managing publicly funded transportation projects. The standard process used by WSDOT and other public agencies avoids risk and concentrates on completing one task at a time, to ensure no mistakes are made and revisions are avoided. In the private sector, the benefit of taking risks, such as proceeding with several phases of a transportation project concurrently, is the associated reward when the risks prove successful. Some way of managing the risk when public dollars are involved needs to be found, to take full advantage of proven ways to make transportation project delivery more efficient.

ALTERNATIVE PROJECT DELIVERY (APD)

Many states, and to a greater extent other countries, are using APD for new transportation facilities. APD can take many forms. Design-build is a key tool in the APD toolbox. Design-build means hiring a single entity for project design and construction, instead of the

conventional practice, known as design-bid-build, of keeping the design process separate from the construction contracting. Design-build has shown significant time savings in Florida and elsewhere, in the range of 35 percent faster delivery of transportation projects.

Although Washington State has laws on public contracting that require the traditional design-bid-build approach, the Legislature has authorized APD in recent years. Under 1998 legislation authorizing design-build transportation pilots, WSDOT has begun two pilot projects.

In 1993, the Legislature authorized public-private initiatives (PPI) to finance road, bridge, and other transportation improvements. The PPI legislation was intended to provide for transportation improvements using private sector financing and expertise and to supplement state transportation revenues for needed projects. The value of the PPI approach derives in part from the design-build opportunity, with cost and schedule savings due to efficiency in having a single team for design, engineering, and construction, instead of multiple contracts. The project risks of design, construction, operation, and maintenance shift to the private sector partner. The private partner also provides financing, so the state has no increased debt. The public and private sector share the project development costs, and the public sector contributes to environmental studies and right-of-way acquisitions.

Several PPI proposals generated public opposition, however, and subsequent legislation has imposed additional requirements, including an advisory election on potential projects. The only PPI project moving forward is the SR-16 project over the Tacoma Narrows.

Examples of APD in other jurisdictions include:

- **California:** In 1989, the California State Assembly authorized four demonstration projects of build-transfer-operate franchises, to be leased to developers for up to 35 years. The first completed project--the first privately financed toll road in the postwar era--is SR 91X in the Los Angeles area. CalTrans executed a design-build contract with a private firm to for the new express toll lanes. This arrangement allowed project completion 13 months ahead of schedule. The private firm operates the express lanes and sets tolls.
- **Richmond, Virginia:** The Commonwealth of Virginia approved a public-private initiatives program to permit private financing of transportation facilities. A bridge over the James River in Richmond, approved in 1983 but unable to be built due to lack of public funds, is now under construction, with private financing and a design-build team.
- **Toronto, Ontario:** Through an agreement with the provincial government, a private consortium designed, developed, and constructed a 69 km, $1 billion highway north of the city, using toll revenues to finance the project. The consortium operates and maintains the highway under a 30-year fixed price contract.
- **Melbourne, Australia:** A $1.8 billion expressway will link three major arterials. Designed, constructed, and operated by a private firm and funded with tolls, the expressway will revert to public ownership after 34 years.